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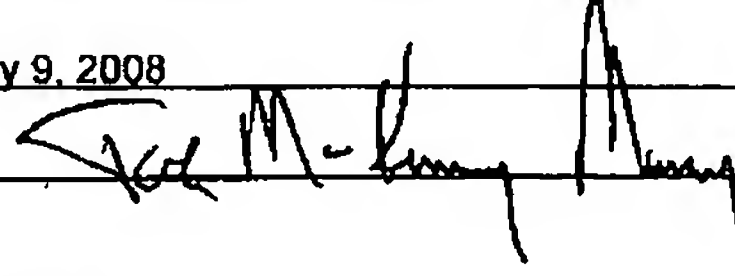
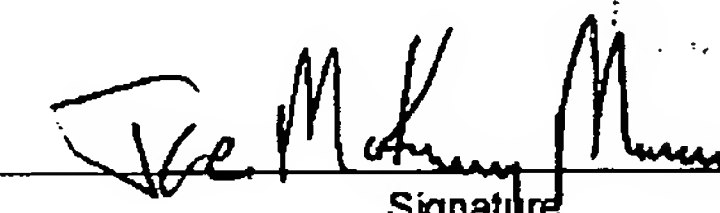
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<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional) 4005/0277PUS1
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]  on <u>May 9, 2008</u> Signature <u></u> Typed or printed name <u>Joe McKinney Muncy</u>		Application Number 10/574,909  First Named Inventor Vincent CARLIER et al  Art Unit 2139  Filed 6 Apr 2006  Examiner C. Laforgia
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.  This request is being filed with a notice of appeal.  The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.		
I am the <input type="checkbox"/> applicant/inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) <input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>32334</u> <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. _____		<u></u> Signature <u>Joe McKinney Muncy</u> Typed or printed name <u>703.621.7140</u> Telephone number <u>May 9, 2009</u> Date
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.		

☐ \*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Vincent CARLIER et al.

Confirmation No. 7126

Application No.: 10/574,909

Art Unit: 2139

Filed: April, 6, 2006

Examiner: LAFORGIA, C.

Title: A METHOD OF PROTECTING A  
CRYPTOGRAPHIC ALGORITHM

Attorney Docket No.: 4005/0277PUS1

REASONS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

MS AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In addition to the Notice of Appeal which is being concurrently filed, Applicants respectfully request a Pre-Appeal Brief Conference to consider the issues raised in the Office Action dated January 9, 2008, that finally rejected claims 1-5.

Claim Rejections under 35 U.S.C. §101

The Examiner rejected claims 1, 2, 4 and 5 under 35 U.S.C. §101, as allegedly being directed to non-statutory subject matter. This rejection is respectfully traversed.

In the Final Office Action dated January 9, 2008, the Examiner asserted that if "the broadest reasonable interpretation of the claimed invention as a whole encompasses a human being, the claim must be rejected as directed to nonstatutory subject matter. See MPEP §2105." (See Office Action: page 2, lines 14-16.) The Examiner further asserted that the addition of the feature "before introduction in a device," as recited in claim 1, "could lead one of ordinary skill in the art to interpret the method claim as being performed by a human being. ... Since the broadest reasonable interpretation of the claimed invention encompasses method steps performed by a human being, the claims are directed towards non-statutory subject matter." (See Office Action: page 2, line 16 – page 3, line 2.)

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In an effort to better understand the Examiner's position, Applicants conducted an interview with the Examiner on April 16, 2008. The Examiner maintained that claim 1 "in its broadest reasonable sense encompasses a human being" and is thus nonstatutory (See Interview Summary dated April 21, 2008).

Applicants respectfully submit that the construing claim 1 as to "encompass a human being" is clearly not a reasonable interpretation. More importantly, because claim 1 is not directed to "Living Subject Matter," using MPEP §2105 as legal basis for maintaining the §101 rejection is clearly flawed. As Applicants pointed out during the Examiner interview, if this line of reasoning set forth by the Examiner was correct, any claim directed to a process involving any type of human interaction (e.g., processes directed to the manufacture of chemical compositions, pharmaceuticals, semiconductors, etc.) would be deemed non-statutory.

Applicants respectfully direct the Examiner's attention to MPEP §2106 (IV)(D), which refers to the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, 1300 *Off. Gaz. Pat. Office* 142 (Nov. 22, 2005) (hereinafter "Guidelines") for a summary of improper tests for subject matter eligibility.

Annex III of the Guidelines indicates that "mental step or human step tests" are "not to be applied by examiners in determining whether the claimed invention is patent eligible subject matter." Specifically, the Guidelines state:

It is immaterial whether the process may be performed by some or all steps that are carried out by a human. Claims are not directed to non-statutory processes merely because some or all the steps therein can also be carried out in or with the aid of a human or because it may be necessary for one performing the processes to do some or all of the process steps. The inclusion in a patent of a process that may be performed by a person is not fatal to patentability.

(See Guidelines, Annex III, paragraph c. (ii).) In summary, Annex III of the Guidelines indicates that "USPTO personnel should no longer rely on the human step test to determine whether a claimed invention is directed to statutory subject matter." (Emphasis added.)

Applicants submit that the proper test for subject matter eligibility under §101 is

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set forth in MPEP §2106.01(IV)(2.2), wherein the claim must be directed to a practical application that produces a (1) useful, (2) tangible, and (3) concrete result. Applicants submit that claims 1, 2, 4 and 5 meet this criteria as provided in detail below.

(1) "USEFUL RESULT"

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible.

(See MPEP §2106(IV)(2.2(a)).) Applicants submit that claim 1 possesses a specific, substantial, and credible utility. For example, the specification explicitly states that the invention may be, for example, directed to a method for protecting a cryptographic algorithm, including while it is being executed in a processor unit, without it being necessary for the manufacturer of the processor unit to intervene (spec: page 2, lines 5-9). Applicants submit that the protection of cryptographic algorithms is a utility which is specific, substantial, and credible.

(2) "TANGIBLE RESULT"

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a Sec. 101 judicial exception, in that the process claim must set forth a practical application of that Sec. 101 judicial exception to produce a real-world result. ... In other words, the opposite meaning of "tangible" is "abstract."

(See MPEP §2106(IV)(2.2(b)).) Applicants submit that claim 1 sets forth more than a §101 judicial exception (e.g., an abstract idea), in that it sets forth a practical application of an abstract idea to produce a real world result. Claim 1 clearly sets forth tangible steps for protecting a cryptographic algorithm prior to introduction into a device.

(3) "CONCRETE RESULT"

Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again.

(See MPEP §2106(IV)(2.2(c)).) Applicants submit that claim 1 sets forth a concrete result in that the method is substantially repeatable. Applicants submit that

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one of ordinary skill in the art would understand, upon reading the specification, that the method is substantially deterministic, and thus, repeatable.

In summary, Applicants submit that claim 1 provides for a practical application that produces a useful, tangible, and concrete result, and thus qualifies as statutory subject matter under §101. Accordingly, Applicants respectfully request that the Examiner withdraw the §101 rejection of claims 1, 2, 4, and 5.

Claim Rejections under 35 U.S.C. §103

The Examiner rejected claims 1-4 under 35 U.S.C. §103, as being unpatentable over U.S. Pat. Pub. No. 2004/0187035 to Schwan et al. (hereinafter "Schwan"), in view of U.S. Pat. Pub. No. 2004/0071293 to Yamamichi et al. (hereinafter Yamamichi), and further in view of U.S. Pat. No. 7,233,662 to Futa et al. (hereinafter Futa); and claim 5 under 35 U.S.C. §103 as being unpatentable over Schwan in view of Yamamichi in view of Futa, and further in view of Applied Cryptography, Protocols, Algorithms, and Source Code in C, by B. Schneier (hereinafter Schneier). These rejections are respectfully traversed.

Regarding claim 1, Applicants submit that Schwan, Yamamichi, and Futa fail to teach or suggest, at least, "protecting a cryptographic algorithm before introduction in a device ... providing combined polynomials ( $Q_k$ ) each obtained from at least two initial polynomials ( $P_i, P_{i+1}$ ) and of implementing the combined polynomials ( $Q_k$ ) in the programmable processor unit."

As admitted by the Examiner in the Office Action dated Jan. 9, 2008 (page 3, para. no. 11), Schwan fails to teach this feature. Moreover, Applicants submit that both Yamamichi and Futa fail to address this deficiency of Schwan.

Yamamichi merely teaches an encryption algorithm that is a polynomial calculation which is performed to the plaintext polynomial  $m$  using the random number polynomial  $r$  and the public key polynomial  $h$ , to so that the encrypted text polynomial  $c=E(m,r,h)$  is generated. (See [0075].)

Futa merely teaches an encryption technique wherein a code of the encryption is small in size compared with one of an elliptic curve encryption. The NTRU encryption code may be installed on low-performance CPU such as one used for domestic appliances. (See col. 1, lines 35-40.)



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Moreover, it appears that the Examiner failed specifically to show where the feature "before introduction in a device" is taught in any of the applied references, and appears to ignore this feature.

Accordingly, Applicants respectfully request that the §103 rejection of claim 1 be withdrawn. Moreover, dependent claims 2-5 are also allowable at least by virtue of their dependency from claim 1.

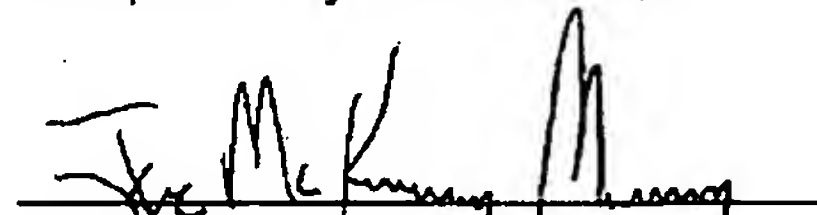
Conclusion

In view of the above remarks, it is believed that the claims clearly set forth statutory subject matter which distinguish over the references relied on by the Examiner, either alone or in combination. As such, it is respectfully submitted that the 35 USC §101 and §103 rejections should now be reconsidered and withdrawn.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 50-3828 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

  
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May 9, 2008